mtecorp.com

Optimized for High Frequency Motors

High Frequency SineWave Guardian™

Product Selector

- **Increases motor life**
- **Easy to integrate, install and service**
- **Operates in high ambient temperatures**
- **High performance and reliability**
- **Three-year warranty**

If you're not leading, you're following. Innovation is here.

At MTE, we have found a way to make our best-in-class motor protection solution, the SineWave Guardian™ Filter, even better. Featuring the same unequaled performance, the market leading High Frequency SineWave Guardian™ uses innovative technology to optimize protection for high frequency motors. Our new filter features reduced voltage drop and virtually eliminates voltage distortion (THVD) generated by Variable Frequency Drives (VFDs). This results in reduced losses, protection against overheating motors, and ultimately providing less downtime. It can protect motors in some of the harshest conditions, with unmatched reliability and durability. The High Frequency SineWave Guardian Filter is the optimized motor protection solution for high frequency motors, exclusively by MTE.

MTE

POWER QUALITY. SOLVED.

Specially designed for high frequency motors to reduce voltage distortion, improve efficiency, and extend motor life.

High Frequency SineWave Guardian™ Filters transform the output of Variable Frequency Drives (VFDs) to a near perfect sinusoidal waveform for the best level of protection for high frequency motors. MTE's unique, patent-pending design comes in a smaller size than traditional LC Filters, and offers higher performance and better efficiency.

Increase motor life
Reduce motor audible noise
Reduce radiated emissions

How to properly size your filter

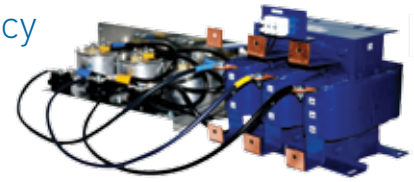
- **Determine voltage and frequency requirements**
- **Reference motor nameplate to determine motor HP or KW and Full Load Amps**
- **Verify motor meets inverter duty standards per NEMA MG1 Section 31**
- **Select filter based on Motor Full Load Amps**
  Do not exceed filter's maximum current rating (amps)
- **Determine derating requirements**
  Reference Performance Specifications table

Understanding the High Frequency SineWave Guardian Part Number:

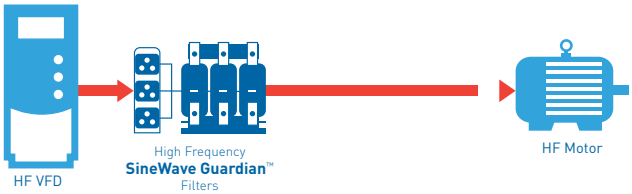
SWG X _ _ _ _ X-HF CC MMM

SineWave Guardian Type
M=Open Magnetics (No Enclosure)
Current Rating
0080 is 80 Amps
0600 is 600 Amps
Voltage Frequency Code
D (380V - 480V)
High Frequency
Optimized Carrier Frequency
Maximum Motor Frequency

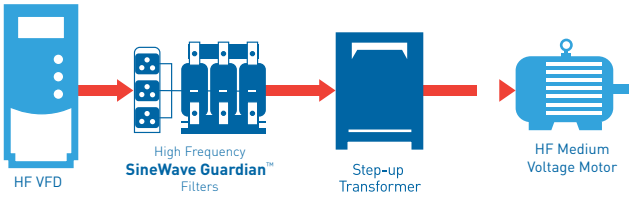
High Frequency SineWave Guardian™



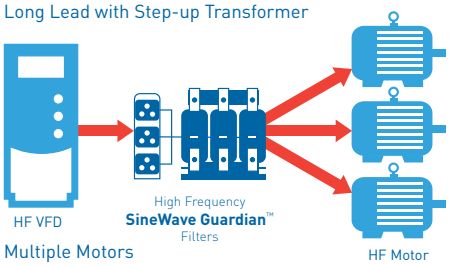
Application Configurations:



Extreme Long Lead to Motor



Long Lead with Step-up Transformer



Multiple Motors

Performance Specifications

Service Load Condition	**Conventional 3 phase motors operating in volts per hertz mode, standard step-up transformer or design for use of filter in sensor less vector mode**
Input Voltage	**380V - 480V +/- 10%**
Harmonic Voltage Distortion	**5% maximum @ 5kHz; 8% maximum @ 6-8 kHz**
Inverter Switching Frequency	**4.8kHz to 8kHz**
Inverter Operating Frequency	**6Hz to 300Hz**
Maximum Ambient Temperature	**-40C to +60C modular filter; -40C to +90C storage**
Insertion Loss (Voltage)	**6% maximum @ 150Hz; 12% maximum @ 300Hz**
Efficiency	**>99%**
Altitude Without Derating	**3,300 feet above sea level**
Maximum Motor Lead Length	**15,000 feet**
Relative Humidity	**0% to 95% non-condensing**
Current Rating	**100% RMS continuous; 150% for 1 minute intermittent**

Final product specifications subject to change at anytime.

380-480V 300Hz

Motor (Ref Only)		Filter Amps Rating	MTE Part Number	Enclosure Type	Filter Dimensions (H x W x D)		Approx Weight		Ref Fig	Watts Loss	Capacitor/Capacitor Panel Assembly Dimensions (H x W x D)		Qty Req'd	Ref Fig
380V KW	480V HP				Inches	Millimeters	Lbs	Kgs			Inches	Millimeters		
37	60	80	SWGM0080D-HF05300	OPEN	10.5 x 12.0 x 9.1	267 x 305 x 231	62	28	1	360	5.8 x 16.3 x 7.6	147 x 414 x 193	1	4
55	75	110	SWGM0110D-HF05300	OPEN	10.3 x 12.0 x 10.1	262 x 305 x 257	77	35	1	451	5.8 x 16.3 x 7.6	147 x 414 x 193	1	4
-	100	130	SWGM0130D-HF05300	OPEN	10.3 x 12.0 x 11.5	262 x 305 x 292	91	41	1	504	5.8 x 16.3 x 7.6	147 x 414 x 193	1	4
75	125	160	SWGM0160D-HF05300	OPEN	10.3 x 12.0 x 11.6	262 x 305 x 295	98	44	1	563	5.8 x 16.3 x 7.6	147 x 414 x 193	1	4
110	150	200	SWGM0200D-HF05300	OPEN	11.9 x 15.3 x 11.2	302 x 389 x 284	130	59	2	718	6.7 x 16.3 x 7.6	170 x 414 x 193	1	4
132	200	250	SWGM0250D-HF05300	OPEN	12.0 x 15.3 x 11.3	305 x 389 x 287	139	63	2	911	6.7 x 16.3 x 7.6	170 x 414 x 193	1	4
160	250	305	SWGM0305D-HF05300	OPEN	12.2 x 15.3 x 12.6	310 x 389 x 320	170	77	2	958	6.7 x 16.3 x 7.6	170 x 414 x 193	1	4
220	350	415	SWGM0415D-HF05300	OPEN	12.1 x 15.3 x 14.3	307 x 389 x 363	237	108	2	1,144	6.7 x 16.3 x 7.6	170 x 414 x 193	2	4
280	450	515	SWGM0515D-HF05300	OPEN	14.4 x 15.3 x 13.1	366 x 389 x 333	251	114	3	1,250	6.7 x 16.3 x 7.6	170 x 414 x 193	1	4
											6.7 x 16.3 x 7.6	6.7 x 16.3 x 7.6	2	4
335	500	600	SWGM0600D-HF05300	OPEN	14.5 x 15.3 x 14.3	368 x 389 x 363	294	133	3	1,321	6.7 x 16.3 x 7.6	170 x 414 x 193	1	4
											6.7 x 16.3 x 7.6	6.7 x 16.3 x 7.6	2	4

Note: Weights and dimensions are for reference only. Please visit **mtecorp.com** for detailed information.

FIGURE 1

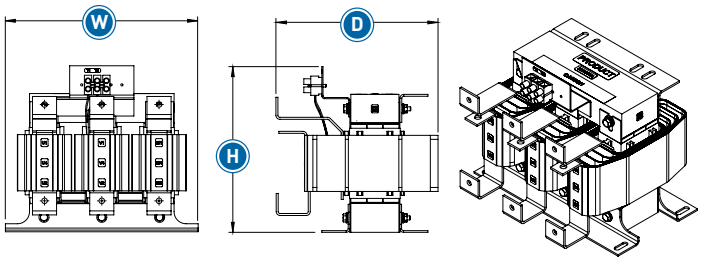


FIGURE 2

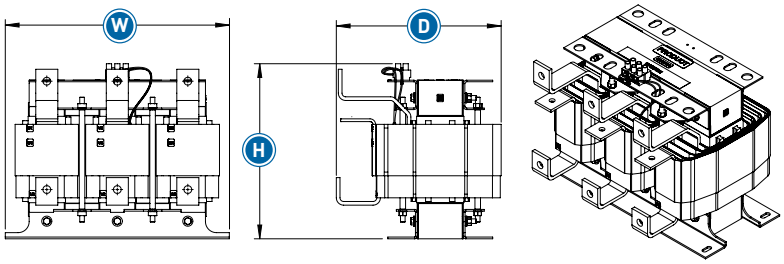


FIGURE 3

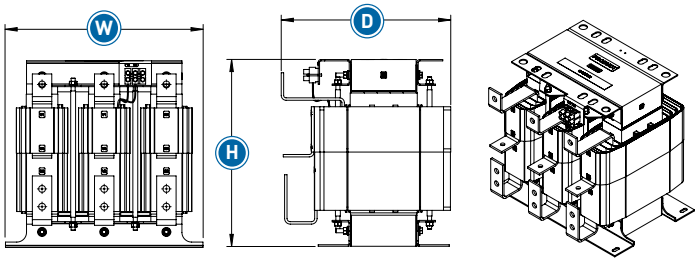
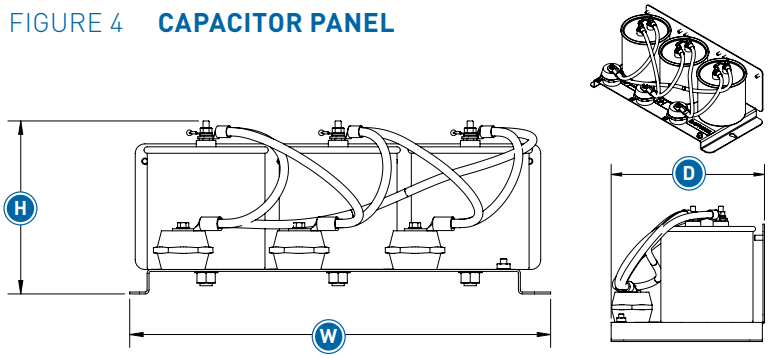


FIGURE 4 **CAPACITOR PANEL**



Note: Figure illustrations are for reference only. Actual hardware may differ. Please visit **mtecorp.com** for detailed information.

The power quality experts.

MTE Corporation was formed in 1982 by bringing together Milwaukee Transformer Co., Transformer Design Inc., and Milwaukee Electronics Corp. – companies that specialized in different fields of magnetics and transformer designs and were long established in their respective fields. MTE vaulted into a leadership role in power quality with its unique AC reactor design and passive filter expertise. We continued to grow as a global leader with innovative Harmonic Filters, Motor Protection Filters and Sinewave Filters.

Now with the addition of TEAL Electronics in 2016, MTE brings a continuum of power quality solutions unmatched in the industry. Building on TEAL's reputation of high-efficiency transformers and durable power conditioning and distribution units for demanding applications, MTE is building the best power quality company by capitalizing on the individual strength of each while bringing a new dimension in management, marketing, and quality.

Our team of professional design engineers has well over 100 years of collective experience in the industry and is complemented by as much experience in operations. Our engineers utilize state-of-the-art platforms and best-in-class simulation/modeling tools so that new designs meet your needs and the latest compliance standards while improving your bottom line.

At MTE, we know power quality because power quality is all we do.

A Handy & Harman company. Better together.

Handy & Harman Ltd. (NASDAQ:HNH) is a diversified manufacturer of engineered niche industrial products with leading market positions in many of the markets it serves. Through its wholly-owned operating subsidiaries, HNH focuses on high margin products and innovative technology and serves customers across a wide range of end markets. HNH's diverse product offerings are marketed throughout the United States and internationally.

MTE
POWER QUALITY. SOLVED.

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